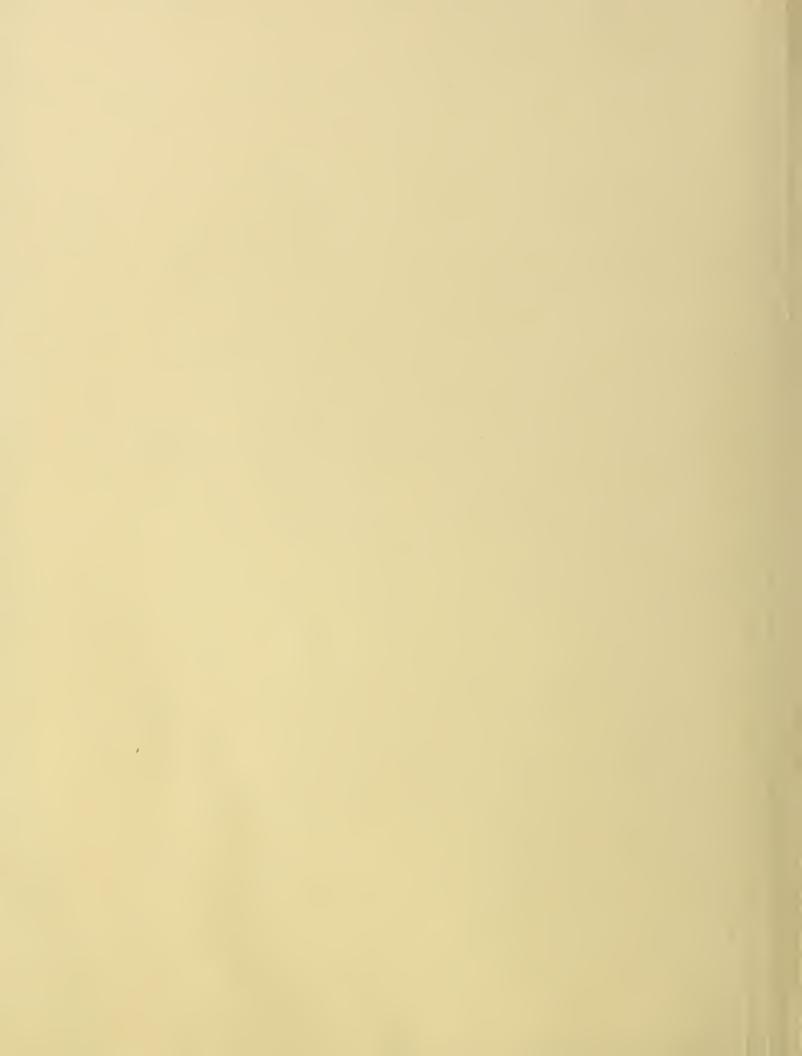
Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.





Idaho Water Supply Outlook Report March 1, 2006



SNOTEL stands for SNOwpack TELemetry and is the name coined for the Natural Resources Conservation Service system of automated weather stations. There are over 730 SNOTEL stations across the Western United States collecting snowpack and related climatic data. In Idaho, there are 79 SNOTEL sites and the number generally grows each year as dictated by need and funding. The system evolved from NRCS's Congressional mandate in the mid-1930's "to measure snowpack in the mountains of the West and forecast the water supply". In the beginning, manual measurements of each snow course were made once or twice a month. Starting in the late 1970's SNOTEL stations began to replace manual courses and offered the advantage of reliable data being transferred to water supply forecasters and other interested users on a daily basis. Today, most sites transmit data on an hourly basis. The NRCS Snow Survey takes pride in the SNOTEL system; proof of this is the license plate of Electronics Technician Chad Gipson, who can be seen taking his work home with him in Boise, Idaho.

Basin Outlook Reports and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, or to subscribe to this publication

Contact - Your local Natural Resources Conservation Service Office

or

Natural Resources Conservation Service Snow Surveys 9173 West Barnes Drive, Suite C Boise, Idaho 83709-1574 (208) 378-5740

Internet Web Address http://www.id.nrcs.usda.gov/snow/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C., 20250-9410, or call (202) 720-5964 (voice and TDD). USDA is an equal employment opportunity provider and employer.

IDAHO WATER SUPPLY OUTLOOK REPORT

March 1, 2006

SUMMARY

Mother Nature took a break for most of February bringing blue skies and sunny days. This gave snow removal crews a chance to catch-up and winter recreationists a chance to enjoy Idaho's above average snow levels. Even heli-ski operators in central Idaho were able to fly for 24 consecutive days in February. By month's end, after reaching 60 degree temperatures in Boise and 50 degrees in the mountains, wet weather returned with rain in the valleys and heavy wet snow in the mountains. Rain and warm temperatures started melting the snowpack below 5,000 feet in the Weiser and South Fork Boise basins, while up to 3.2 inches of snow water was deposited in two days in the central mountains.

After six years of drought across most of southern Idaho, an above average snowpack is just what Idaho needs. One month of well below normal precipitation is not going to hurt us as it has in past years when the snow was below normal and we were playing catch-up the rest of winter. The lowest snowpacks in the state are 90-100% of average in parts of the Panhandle and Clearwater basins and highest snowpacks are 130-140% in parts of central and southern Idaho. Reservoir storage is looking good with many making releases to maintain space for this spring's runoff. The lowest streamflow forecasts are for 86% of average in the Lemhi and Little Lost basins. The highest are 130-155% of average in central and southern Idaho. Surface water supplies should be adequate for Idaho's irrigators and numerous other users including the fish, river runners and hydro-power producers. There will be an extended period of high flows this year. The above normal snow and streams will help recharge springs that keep stream levels higher in the dry summer months. It may take several above normal snow years to put a bigger dent in the cumulative drought deficit as Bear Lake and Blackfoot reservoirs are still at only 28% of capacity, 43% of average, and groundwater levels in central and eastern Idaho remain low. An above average snowpack in the 110-130% of average range on April first is the ideal snowpack that Idaho snow and water users have been hoping for since 1999. Record high snowpacks are in the 150-180% of average on April 1.

SNOWPACK

The lack of precipitation in February allowed snow water content amounts to level off and not increase at their normal rates. Colder temperatures prevented melt in the lower elevations preserving snowpacks. Snow depths decreased as they normally do during dry periods. Snowpack percentages decreased 10-20 percentage points during February; the decrease would have been more severe if it were not for the wet storm track the last two days of the month. Current snowpack percentages generally increase from the north to south with the lowest at 89% of average in the Palouse basin. The highest are 130-140% of average in Camas, Big Wood, Fish Creek, Oakley, Bruneau and Cub basins. Oakley basin continues to host the highest snowpack in the state at 139% of average, 120% of its seasonal peak and 6th highest since 1961. With less than a month to go during the winter accumulation season, Idaho's snowpack is encouraging and has some of the best snow in the west. On the other hand, the Arizona snowpack is like Washington's snowpack last year and nearly non-existent.

PRECIPITATION

February brought a drying trend to the state, and if it was not for the last two days of February, February would have been a very dry month. Some SNOTEL stations from the Weiser basin to the Little Lost basin had only received 0.5 - 1.0 inches the first 26 days of February. As it turns out, storms loaded with moisture moved back in with rain starting to melt low elevation snow in the Weiser basin and depositing three inches of snow water in two days at Big Creek Summit and Deadwood Summit SNOTEL sites. February ended with monthly precipitation totals ranging from 58% of average in the Boise and Henrys Fork basins to 111% in the Little Lost basin. The Little Wood and Big Lost basins received 85-95% of average February precipitation rather than the 20-30% of average values if the month ending storm was missed. Water year to date amounts range from just above average in the Panhandle Region to 146% in the Oakley basin, which is 83% of the annual precipitation that normally falls. Elsewhere, water year to date precipitation are in the 115-135% of average range.

RESERVOIRS

Reservoir storage is looking good with many making releases to maintain space for this spring's runoff. Most reservoirs across the state range from 70-110% of average. The lowest storage levels remain in Bear Lake and Blackfoot reservoirs at only 28% of capacity, 43% of average, several above average snow years are needed to improve storage levels to more respectable levels. As a result of the good snowpack and promising streamflow forecasts, reservoirs should remain full longer into the summer months.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts decreased slightly from last month with the below average February precipitation amounts. The lowest streamflow forecasts in the state are 86% of average in the Lemhi and Little Lost basins. Next lowest are Panhandle tributary streams and Dworshak Reservoir inflow forecasted at 90-100% of average. The highest forecasts are in the Owyhee basin headwaters and Camas Creek near Fairfield at 145-155% of average. Oakley, Salmon Falls, Bruneau, South Fork Boise, Boise and Big Wood below Magic are forecast at 130-140% of average. The Snake River near Heise is forecast at 111% of average, highest volume since 1999. Surface water supplies should be adequate for Idaho's numerous water users, except in the Little Lost basin where supplies may be marginal due to below average forecasts. This year it does not appear that Idaho water users will have to depend as much on spring precipitation to improve water supplies. However, spring precipitation will still help improve rangeland conditions, dryland farming and other resource concerns.

RECREATION

Dry, sunny and cold temperatures in February allowed winter recreationists a chance to enjoy the best snowpacks since 1999. Even heli-ski operators in central Idaho were able to fly and ski 24 consecutive days in February. With most streams in the state forecast between the 106% of average as predicted for the Selway River to the 130% or better as predicted for the Owyhee and Bruneau rivers in southern Idaho's high desert; what more could you ask for? With good snow, streams forecasted at average or better across Idaho, reservoirs releasing water now which means they will fill later and remain full longer this summer, water activities will be plentifully in Idaho this summer. Hopefully, the above average precipitation will dampen the likelihood of forest fires and keep smoke to a minimum this summer. Enjoy!

WESTERN SNOW CONFERENCE

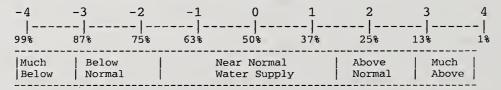
A tradition started in 1932 to share information about measuring snow and predicting streamflow for snowmelt dominated streams in the western U.S. This tradition became the Western Snow Conference. The 74th annual conference will be in Las Cruces, New Mexico April 17-20, 2006. Today, the Western Snow Conference provides an international forum for individuals and organizations to share their research and information on snow hydrology. This year's theme is "New Technologies Applied to Understanding Snow Processes and Improving Forecasting". Additional information for registration and lodging is on the Western Snow Conference web page at: http://www.westernsnowconference.org/

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	SWSI Value	Most Recent Year With Similar SWSI Value	Agricultural Water Supply Shortage May Occur When SWSI is Less Than
PANHANDLE	-0.8	1993	NA
CLEARWATER	1.8	1999	NA
SALMON	1.0	1995	NA
WEISER	1.7	1995	NA
PAYETTE	2.2	1995	NA
BOISE	1.3	1998	-2.1
BIG WOOD	1.3	1996	-0.5
LITTLE WOOD	1.3	1999	-2.0
BIG LOST	2.0	1998	-0.5
LITTLE LOST	-0.3	1996	0.0
HENRYS FORK	0.0	1993	-3.3
SNAKE (HEISE)	1.0	1998	-1.8
OAKLEY	1.5	1999	-1.0
SALMON FALLS	1.7	1998	-1.0
BRUNEAU	2.9	1995	NA
BEAR RIVER	-2.2	2002	-3.5

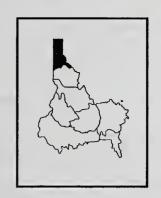
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

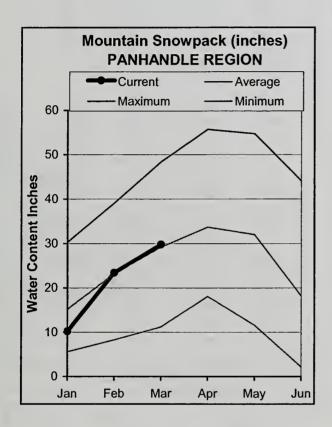


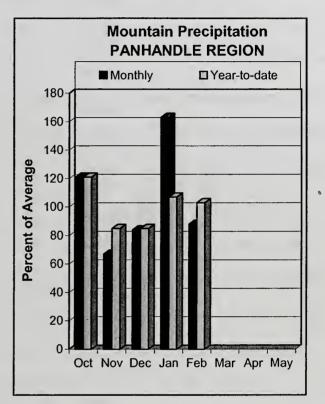
NA = Not Applicable

Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION MARCH 1, 2006







WATER SUPPLY OUTLOOK

February precipitation fell more evenly in northern Idaho than in the rest of the state. Monthly precipitation was 88% of average and was one of the higher amounts in the state; however, water year to date remains the lowest in the state at 103% of average. As a result the Panhandle Region hosts the lowest snowpacks in the state with the Palouse at 89% of average, and Coeur d'Alene and Moyie basins at 95%. The Pend Oreille basin snowpack is 104% of average and Priest and Rathdrum are 115%. Overall, the Panhandle Region is 102% of average and is more than twice last year's snowpack. Storage in Coeur d'Alene, Priest and Pend Oreille lakes ranges from 57% to 108% of average, respectively. Streamflow forecasts remain the same as a month ago and call for 90-100% of average runoff for the April-September period. Water supplies should be adequate. However, if future precipitation is drier than normal, the forecasts will decrease but seasonal runoff volumes will still be better than last year.

PANHANDLE REGION Streamflow Forecasts - March 1 2006

		<<===== 	Drier ====	== Future Co	nditions ==	==== Wetter	====>>	
Forecast Point	Forecast	======		= Chance Of E	xceeding * =		======	
	Period	90% (1000AF)	70% (1000AF)	50 (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUL APR-SEP	5810 7890	6540 7910	6870 7920	98 98	7200 7930	7930 7950	7040 8120
MOYIE RIVER at Eastport	APR-JUL APR-SEP	320 330	350 365	 370 385	91 92	390 405	420 440	405 420
SMITH CREEK	APR-JUL APR-SEP	94 97	108 113	 118 124	96 96	128 135	142 151	123 129
BOUNDARY CREEK	APR-JUL APR-SEP	90 94	104 109	 114 119	93 92	124 129	138 144	123 129
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL APR-SEP	8640 9550	10610 11720	 11500 12700	102 102	12390 13680	14360 15850	11300 12500
PEND OREILLE Lake Inflow (2)	APR-JUL . APR-SEP	10530 11500	11940 13050	 12900 14100	102 101	13860 15150	15270 16700	12700 13900
PRIEST near Priest River (1,2)	APR-JUL APR-SEP	685 650	780 810	 825 880	101 101	870 950	965 1110	815 870
NF COEUR D'ALENE RIVER AT ENAVILLE	APR-JUL APR-SEP	485 515	590 620	 660 695	89 89	730 770	835 875	740 780
ST. JOE at Calder	APR-JUL APR-SEP	820 875	950 1000	 1030 1090	90 91	1110 1180	1240 1310	1140 1200
SPOKANE near Post Falls (2)	APR-JUL APR-SEP	1740 1810	2070 2160	 2300 2390	90 90	2530 2620	2860 2970	2550 2650
SPOKANE at Long Lake (2)	APR-JUL APR-SEP	1930 2110	2320 2520	 2580 2800	91 91	2840 3080	3230 3490	2850 3070

Reservoir Sto	orage (1000 AF) - End	of Febr	uary		Watershed Snowpack	Analysis -	March 1,	2006
Reservoir	Usable Capacity	This	able Store		 Watershed	Number of		
	 	Year	Year	Avg	 	ata Sites	Last Yr	Average
HUNGRY HORSE	3451.0	2748.0	3102.0	2047.6	Kootenai ab Bonners Ferr	y 28	182	98
FLATHEAD LAKE	1791.0	840.2	1095.0	802.7	Moyie River	10	144	96
NOXON RAPIDS	335.0	309.5	301.3	297.5	Priest River	4	251	117
PEND OREILLE	1561.3	844.8	933.3	778.8	Pend Oreille River	93	229	105
COEUR D'ALENE	238.5	83.3	72.3	144.9	Rathdrum Creek	2	643	111
PRIEST LAKE	119.3	50.4	55.0	56.8	Hayden Lake	2	0	107
					Coeur d'Alene River	9	294	101
					St. Joe River	5	228	97
					Spokane River	15	311	100
					Palouse River	2	825	89

PANHANDLE REGION

The average is computed for the 1971-2000 base period.

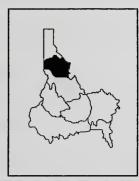
PANHANDLE REGION

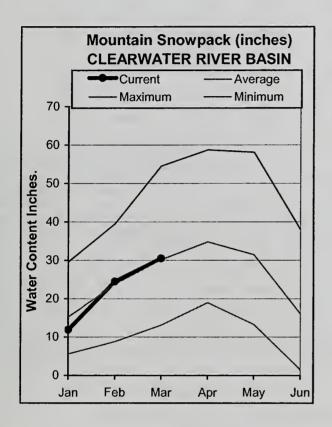
^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

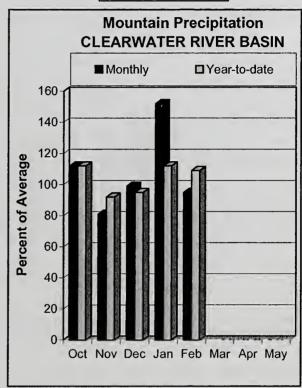
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

CLEARWATER RIVER BASIN MARCH 1, 2006







WATER SUPPLY OUTLOOK

February was not as dry in the Clearwater basin as the rest of Idaho. February precipitation was 95% of average, only exceeded by the Little Lost basin which was 111%. Water year to date precipitation is 109% of average, only the Panhandle Region has received less. Snowpacks in these basins remain near average with the North Fork Clearwater River basin at 98% of average, Lochsa basin at 104% and Selway basin at 111%. Overall, the Clearwater basin is 100% of average; finally a normal year! The snowpack is twice last year and slightly better than 2004. Dworshak Reservoir is storing average amounts at 66% of capacity; inflow forecast calls for 99% of average. Last year the runoff was only 62% of average. The Selway and Lochsa rivers are forecast at 105% of average. A normal runoff season would be nice after a dry year like 2005, let's hope future precipitation remains in the normal range.

CLEARWATER RIVER BASIN Streamflow Forecasts - March 1, 2006

		<<=====	Drier ====	== Future Co	onditions ==	===== Wetter	:====>>	
Forecast Point	Forecast	=======		= Chance Of B	Exceeding * =		*******	
	Period	90% (1000AF)	70% (1000AF)	50 (1000AF)	_	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SELWAY near Lowell	APR-JUL APR-SEP	1890 1980	2060 2170	2180	106 106	2300 2410	2470 2600	2060 2170
LOCHSA near Lowell	APR-JUL APR-SEP	1410 1480	1520 1600	1600 1680	105 104	1680 1760	1790 1880	1530 1610
DWORSHAK RESV INFLOW (1,2)	APR-JUL APR-SEP	1690 1840	2330 2480	2620 2770	99 99	2910 3060	3550 3700	2640 2800
CLEARWATER at Orofino (1)	APR-JUL APR-SEP	3310 3570	4380 4640	4870 5130	105 105	5360 5620	6430 6690	4650 4900
CLEARWATER at Spalding (1,2)	APR-JUL APR-SEP	5330 5750	6980 7400	 7730 8150	104 104	8480 8900	10130 10550	7430 7850
CLEARWAT Reservoir Storage (1	TER RIVER BASIN 1000 AF) - End		 ry	<u></u>		ARWATER RIVER Owpack Analys		1, 2006
======================================	Usable Capacity	This	le Storage *	Water	rshed	Numbe of	====	Year as % of
DWORSHAK	3468.0	Year ====================================	Year A 2870.3 224	vg ==== ===============================	Fork Clearw	Data Si ========== ater 9	tes Last 210	Yr Average ====================================

Lochsa River

Selway River

Clearwater Basin Total

231

219

213

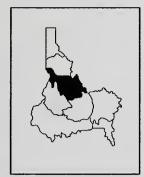
104

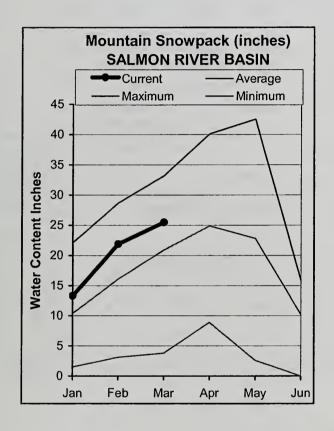
111

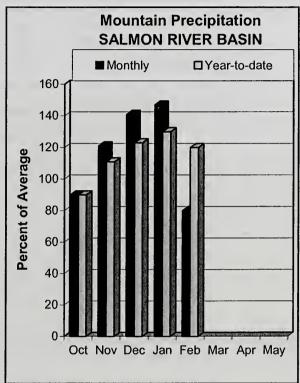
- (1) The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) The value is natural volume actual volume may be affected by upstream water management.

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

SALMON RIVER BASIN MARCH 1, 2006







WATER SUPPLY OUTLOOK

February precipitation in the Salmon basin was only 80% of average with amounts ranging from 1.1 inches in the Lemhi basin to 5.7 inches at Deadwood Summit. This could have been worse considering that half to three-quarters of the precipitation amounts fell the last two days of the month. The Lemhi basin hosts the lowest snowpack of the Salmon basin tributaries at only 104% of average. The Little Salmon basin snow is 114% of average. The snowpack in the Salmon basin above Salmon and Middle Fork Salmon River are 123% of average. Overall, the Salmon River basin snowpack is 115% of average, twice last year and best since 1999. While snowpack percentages decreased 10-20 percentage points during February, streamflow forecasts decreased about 10 percentages points. The Lemhi River is forecast at only 86% of average. The Middle Fork Salmon River is forecast at 135% of average and the Salmon River at White Bird is forecast at 116%, very similar to the 1999 runoff season. River runners will see an extended period of high water and a longer floating season on the Middle Fork Salmon River. Streamflow peaks could be moderate to high depending upon spring weather.

SALMON RIVER BASIN Streamflow Forecasts - March 1, 2006

	·	 <<====== 	Drier ===		Future Co	======= nditions =		: Wetter	=====	====== >>	
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	1	ance Of E 50 (1000AF)	xceeding * % (% AVG.)	1	30% (1000AF)	10% (1000	j	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL APR-SEP	680 840	915 1070	== ===	1020 1180	119 118	=== == 	1130 1290	136 152		855 1000
Lemhi River nr Lemhi	APR-JUL APR-SEP	47 57	63 76		74 90	86 86		87 106	10 13		86 105
MF Salmon at MF Lodge	APR-JUL APR-SEP	811 905	955 1064		1060 1180	135 135		1170 1301	134 149		785 875
SALMON at White Bird (1)	APR-JUL APR-SEP	5020 5750	6230 6960		6780 7510	116 116		7330 8060	854 927	-	5850 6480
SALM Reservoir Storage	ION RIVER BASIN (1000 AF) - End	of Februar	· 		 	======= Watershed S		I RIVER E k Analys		====== arch 1,	2006
Reservoir	Usable Capacity	*** Usabl This	e Storage. Last	***	======== Water:	shed		Numbe of	er	This Ye	ar as % of
		Year		Avg				Data Si	tes	Last Yr	Average
					Salmo	n River ab	Salmor	11		215	123

Lemhi River

Middle Fork Salmon River

South Fork Salmon River

Little Salmon River

Salmon Basin Total

160

245

248

218

206

3

3

4

104

123

123

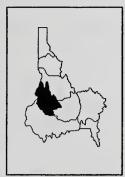
113

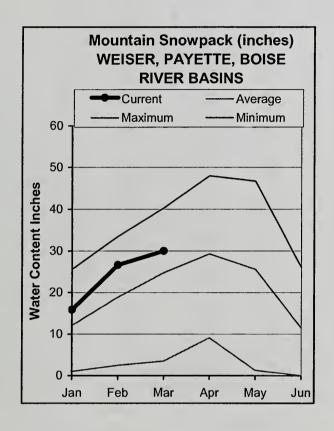
115

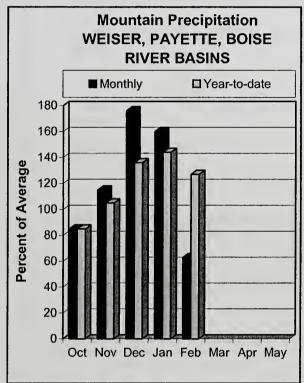
- (1) The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) The value is natural volume actual volume may be affected by upstream water management.

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

WEISER, PAYETTE, BOISE RIVER BASINS MARCH 1, 2006







WATER SUPPLY OUTLOOK

February precipitation was 56% of average in the Boise, 61% in the Weiser, and 70% in the Payette basins. Water year to date precipitation in these west-central mountains is 127% of average, more than twice last year at this time. Snowpack percentages decreased 10-20 percentage points from last month and now range from 115-130% of average, more than twice last year and best snow since 1999. The rain and warm temperatures in late February started melting the snowpack below 5,000 feet as indicated by two of our lowest SNOTEL sites, Van Wyck in the Weiser and Prairie in the South Fork Boise basins. Reservoir releases are being made in the Boise and Payette systems to maintain adequate storage space for the snowmelt runoff. Streamflow forecasts are for 133% of average for the Boise River near Boise, 124% for the Payette River near Horseshoe Bend, and 127% for the Weiser River. With the above average snowpacks, there will be an extended period high flows; likewise reservoirs will remain full for a longer period after the peak streamflows occur.

WEISER, PAYETTE, BOISE RIVER BASINS Streamflow Forecasts - March 1, 2006

		<<=====	Drier ====	== Future Co	nditions ==	===== Wetter	: ====>>	
Forecast Point	Forecast	======		= Chance Of E	xceeding * =			
	Period	90% (1000AF)	70% (1000AF)	509 (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg (1000AF)
WEISER near Weiser (1)	APR-SEP	340	475	535	127	595	730	420
SF PAYETTE at Lowman	APR-JUL	450	495	525	119	555	600	440
	APR-SEP	505	555	590	119	625	675	495
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	133	155	165	123	175	195	134
	APR-SEP	143	165	175	123	185	207	142
LAKE FORK PAYETTE near McCall	APR-JUL	84	92	98	115	104	112	85
	APR-SEP	87	96	102	115	108	117	89
NF PAYETTE at Cascade (1,2)	APR-JUL	465	560	600	122	640	735	490
	APR-SEP	515	610	650	123	690	785	530
NF PAYETTE nr Banks (2)	APR-JUL APR-SEP	635 685	725 780	 790 850	123 123	855 915	950 1015	645 690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1580	1860	1990	124	2120	2400	1610
	APR-SEP	1670	2010	2160	123	2310	2650	1750
BOISE near Twin Springs (1)	APR-JUL	665	760	800	126	840	935	635
	APR-SEP	710	820	870	126	920	1025	690
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	610	685	720	133	755	830	540
	APR-SEP	615	725	775	134	825	935	580
MORES CREEK near Arrowrock Dam	APR-JUL	127	150	165	126	180	202	131
	APR-SEP	132	155	171	125	187	212	137
BOISE near Boise (1,2)	APR-JUN	1400	1590	1680	133	1770	1960	1260
	APR-JUL	1470	1750	1880	133	2010	2290	1410
	APR-SEP	1630	1910	2040	133	2170	2450	1530

	(2000 /							
Reservoir	Usable Capacity	*** Usa This Year	able Stora Last Year	ge *** Avg	Watershed	Number of Oata Sites	This Yea	ar as % of Average
				======				========
MANN CREEK	11.1	8.1	2.9	6.1	Mann Creek	2	175	100
CASCADE	693.2	491.7	474.2	438.3	Weiser River	5	204	112
DEADWOOD	161.9	75.6	74.5	88.5	North Fork Payette	8	227	115
ANDERSON RANCH	450.2	232.7	174.0	268.0	South Fork Payette	5	244	123
ARROWROCK	272.2	108.7	139.8	210.4	Payette Basin Total	14	228	118
LUCKY PEAK	293.2	91.6	101.5	120.4	Middle & North Fork Bois	e 5	244	123
LAKE LOWELL (DEER FLAT)	165.2	85.4	110.7	109.1	South Fork Boise River	9	215	127
					Mores Creek	5	225	113
					Boise Basin Total	16	223	121

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the

2

223

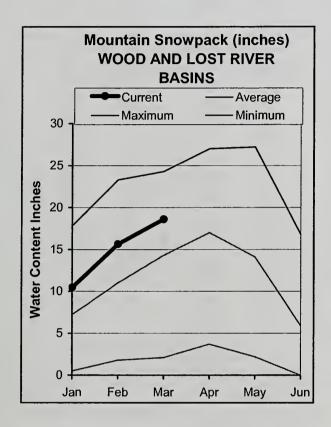
Canyon Creek

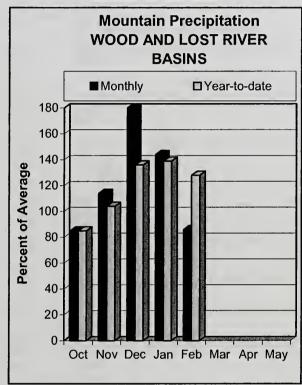
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

WOOD and LOST RIVER BASINS MARCH 1, 2006







WATER SUPPLY OUTLOOK

Most of February was dry in the Central Mountains. Monthly precipitation totals would have ranged from 20-40% of average if not for the storm at the end of the month which boosted monthly totals to 85%. Water year to date precipitation is 128% of average in these central mountains, with the highest totals in Little Wood Basin at 136% of average. As of March 1, snowpacks in the Big Wood basin are 130% of normal, twice as much as last year. Snowpacks are above average in all other basins with the Little Wood at 111%, Big Lost at 129%, Little Lost at 111%, Birch-Medicine Lodge at 103%, and Camas—Beaver Creek at 113%. The most significant effect of the end of February storm was in Big Lost and Little Lost basins. Hilts Creek snow site received 16 inches of snow or 2.5 inches of water content between February 27 and March 1. This was equivalent to adding 25% to the snowpack. Flood control releases continued from Little Wood Reservoir drafting the storage to 30% of capacity as the streamflow forecast is for 120% of average. Magic Reservoir is 32% full and inflow forecast is for 131% of average for April-September, best since 1999. Mackay Reservoir is 73% full and forecast at 119% of average. Groundwater levels are still low in the Big Lost and Little Lost basins due to the six year drought but surface water supplies should remain similar to 1999 which was the end of the wet years.

WOOD AND LOST RIVER BASINS Streamflow Forecasts - March 1, 2006

			FORECASES		***			
		<<======	Drier ====	== Future Co	nditions =	===== Wetter	:====>>	
Forecast Point	Forecast	 ======		= Chance Of E	xceeding *			
	Period	90% (1000AF)	70% (1000AF)	50 (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
======================================	APR-JUL	209	280	315	124	353	443	255
	APR-SEP	237	316	355	122	397	497	290
BIG WOOD ab Magic Reservoir	APR-JUL	134	184	225	118	271	350	190
	APR-SEP	160	210	245	120	280	330	204
CAMAS CREEK near Blaine	APR-JUL	102	132	 155	155	180	219	100
	APR-SEP	103	133	156	155	181	221	101
BIG WOOD below Magic Dam (2)	APR-JUL	255	330	 380	131	430	505	290
	APR-SEP	270	350	400	131	450	530	305
LITTLE WOOD R ab High Five Ck	MAR-JUL	76	95	 109	128	124	148	85
	MAR-SEP	81	102	117	127	133	159	92
	APR-JUL	67	85	99	127	114	137	78
	APR-SEP	73	93	108	127	124	150	85
LITTLE WOOD near Carey (2)	MAR-JUL	90	110	 123	128	l l 136	156	96
	MAR-SEP	98	119	133	128	j 147	168	104
	APR-JUL	78	98	111	128	124	144	87
	APR-SEP	85	106	120	128	134	155	94
BIG LOST at Howell Ranch	APR-JUL	127	170	 200	116	l 230	274	173
	APR-SEP	146	196	230	117	262	312	197
BIG LOST bl Mackay Reservoir	APR-JUL	108	144	 168	119	l 192	228	141
	APR-SEP	132	175	205	119	235	280	172
LITTLE LOST bl Wet Creek	APR-JUL	17.0	23	27	87	l 31	37	31
	APR-SEP	20	28	33	85	38	46	39

	WOOD AND	LOST	RTVER	BASTNS	
Reservoir					February

WOOD AND LOST RIVER BASINS Watershed Snowpack Analysis - March 1, 2006

Reservoir	Usable Capacity	*** Usal This	ole Storag Last	je ***	Watershed	Number of	This Yea	r as % of
reselvoii	Capacity	Year	Year	Avg		Data Sites	Last Yr	Average
MAGIC	191.5	62.2	25.6	89.7	Big Wood ab Hailey	8	193	128
LITTLE WOOD	30.0	9.0	15.5	17.7	Camas Creek	5	219	133
MACKAY	44.4	32.3	22.8	30.8	Big Wood Basin Total	13	200	130
					Fish Creek	3	160	133
					Little Wood River	9	160	130
					Big Lost River	7	162	129
					Little Lost River	4	162	111
				ł	Birch-Medicine Lodge Cr	ee 4	128	103
					Camas-Beaver Creeks	4	120	113

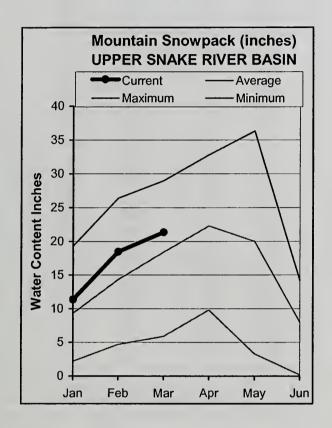
^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

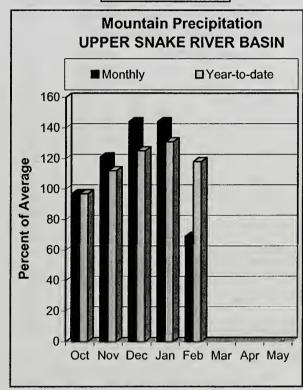
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

UPPER SNAKE BASINS MARCH 1, 2006







WATER SUPPLY OUTLOOK

Only three of twenty-three SNOTEL sites in the Upper Snake River basin had better than average precipitation for February. Precipitation was 59% of average for the Henrys Fork and Teton basins and around 70% for the Upper Snake, Willow, Blackfoot and Portneuf basins. In spite of the drier month, water year to date precipitation remains above normal in all basins at 118%. Snowpacks above American Falls Reservoir are 117% of average overall, and range from 104% for the Gros Ventre to 125% for Willow Creek basins. Flood control releases from Palisades Reservoir dropped storage to 61% of capacity to create room for the spring melt that is expected to fill the reservoir this year. Similar releases are occurring from American Falls Reservoir which is 79% full and will fill based on normal irrigation demand and start dates. Jackson Lake is 49% full, 83% of average. The Snake River near Heise is forecast at 111% of average and based on the Surface Water Supply Index, surface water supplies should be adequate and the best since 1999. Blackfoot Reservoir remains low at only 27% full, 42% of average; inflow is forecast at 108% of average. All indications are that surface water supplies will be adequate. Groundwater levels and springs have a slower response time so it may take several above average precipitation years for these to rebound.

UPPER SNAKE RIVER BASIN Streamflow Forecasts - March 1, 2006

					onditions ==			
Forecast Point	Forecast				exceeding * ==			
	Period	90% (1000AF)	70% (1000AF)	50 (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avç (1000AI
======================================	APR-JUL	510	560	=====================================	104	= ====== 630	680	 57(
MINIS FORK HEAL ASILON (2)	APR-SEP	695	755	795	104	835	895	765
HENRYS FORK near Rexburg (2)	APR-JUL	1410	1570	1680	108	1790	1950	156
mattib Foldt fiedd fieddaig (2)	APR-SEP	1860	2040	2160	108	2280	2460	201
FALLS RIVER nr Ashton (2)	APR-JUL	335	380	410	108	440	485	380
THE TEVER IN TENTEON (2)	APR-SEP	400	455	490	109	525	580	450
TETON RIVER NEAR DRIGGS	APR-JUL	142	167	185	112	203	226	165
DIGIT TELVIAL TIMEST DICEOGO	APR-SEP	183	214	235	112	255	285	210
TETON near St. Anthony	APR-JUL	340	395	435	107	475	530	405
Dien near bet interess	APR-SEP	405	470	515	107	560	625	480
SNAKE at Flagg Ranch	APR-JUL	470	525	560	119	595	650	470
aria de rraggiana.	APR-SEP	520	580	620	120	660	720	51!
NAKE nr Moran (1,2)	APR-JUL	750	860	910	112	955	1065	81
	APR-SEP	830	950	1010	112	1070	1190	90
PACIFIC CREEK at Moran	APR-JUL	158	176	191	112	206	226	17:
	APR-SEP	165	185	200	112	215	235	178
SNAKE ab resv nr Alpine (1,2)	APR-JUL	2220	2500	2630	111	2760	3040	2370
	APR-SEP	2560	2880	3030	111	3180	3500	273
REYS above Palisades	APR-JUL	330	370	395	116	420	460	340
	APR-SEP	380	425	455	115	485	530	39
SALT near Etna	APR-JUL	300	355	390	115	425	480	340
	APR-SEP	375	435	480	114	525	585	420
SNAKE nr Irwin (1,2)	APR-JUL	3060	3500	3700	111	3900	4340	3330
(1,2,	APR-SEP	3590	4080	4300	111	4520	5010	387
NAKE near Heise (2)	APR-JUL	3400	3730	3950	111	4170	4500	3560
	APR-SEP	4000	4370	4620	111	4870	5240	4160
TILLOW CREEK nr Ririe	MAR-JUL	67	84	96	109	109	130	8
SLACKFOOT RESV INFLOW	APR-JUN	92	115	130	108	145	168	120
NAKE nr Blackfoot (1,2)	APR-JUL	4250	4860	5130	112	5400	6010	4600
	APR-SEP	5390	6000	6270	112	6540	7150	5620
ORTNEUF at Topaz	MAR-JUL	80	90	97	109	104	114	89
	MAR-SEP	99	111	119	109	127	139	109
MERICAN FALLS RESV INFLOW (1,2)	APR-JUL	2550	3370	3740	115	4110	4930	3240
(2,2)	APR-SEP	2860	3680	4050	115	4420	5240	3510
				 ========				

UPPER Reservoir Storage	SNAKE RIVER BAS (1000 AF) - End		uary		UPPER SNAKE RIVER BASIN Watershed Snowpack Analysis - March 1, 2006					
Reservoir	Usable Capacity	*** Usa This	able Stor Last	======= age *** 	Watershed	Number of	This Yea	ras % of		
		Year	Year	Avg		ata Sites	Last Yr	Average		
HENRYS LAKE	90.4	85.3	67.1	84.4	Henrys Fork-Falls River	12	144	113		
ISLAND PARK	135.2	96.7	86.6	107.1	Teton River	7	169	113		
GRASSY LAKE	15.2	8.3	8.9	12.0	Henrys Fork above Rexbur	g 19	152	113		
JACKSON LAKE	847.0	411.5	143.9	494.0	Snake above Jackson Lake	9	170	114		
PALISADES	1400.0	855.7	630.0	1033.1	Gros Ventre River	3	153	104		
RIRIE	80.5	43.1	33.2	38.5	Hoback River	5	149	106		
BLACKFOOT	348.7	94.4	40.0	224.7	Greys River	5	157	123		
AMERICAN FALLS	1672.6	1313.8	1175.5	1271.1	Salt River	5	152	121		
				ĺ	Snake above Palisades	27	161	114		
				İ	Willow Creek	7	172	125		
					Blackfoot River	5	161	115		
				i	Portneuf River	7	145	122		
				j	Snake abv American Falls	48	158	117		

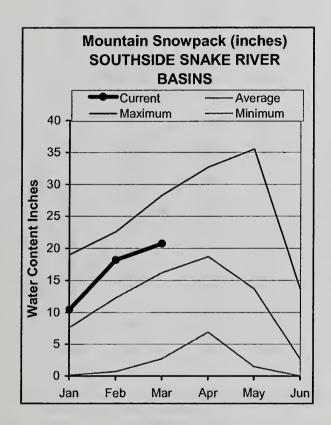
^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

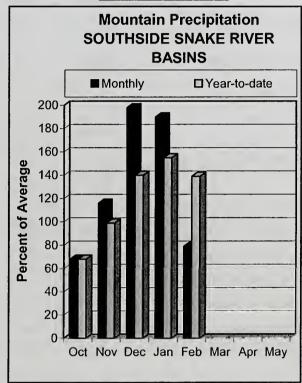
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS MARCH 1, 2006







WATER SUPPLY OUTLOOK

After receiving nearly twice the monthly average precipitation in December and January, February precipitation fell to 79%. Overall precipitation for the year is 139% of normal, highest in the state. Cold temperatures prevented snow from melting during the bulk of the February dry spell. As of March 1, Oakley basin snowpack is the highest in the state and the sixth best since 1961 at 139% of average. Elsewhere, snowpacks are 134% for the Bruneau, 130% for the Salmon Falls, and 123% for Owyhee Basin. A warmer storm at month's end brought rain to lower elevations causing the Bruneau River to quadruple its flow cresting at 874 cfs in early March. Looking to the future the Bruneau River is forecast at 130% of average. Salmon Falls Creek Reservoir is 26% full and forecast at 138% of average, while Oakley Reservoir is 45% full and forecast at 132% of average. Owyhee Reservoir is currently 77% full and managers continued to make releases throughout the month to maintain flood storage capacity. Owyhee Reservoir inflow is forecast at 119% of average. With more water in the reservoirs and snowpacks at 105-120% of their April 1 average seasonal peaks, water supplies and river running opportunities should be very good even with below normal spring precipitation.

SOUTHSIDE SNAKE RIVER BASINS Streamflow Forecasts - March 1, 2006

		<<===== 	Drier ====	== Future Co	nditions ==	===== Wetter	:====>>	
Forecast Point	Forecast					200		20
	Period	90% (1000AF)	70% (1000AF)		(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
DAKLEY RESERVOIR INFLOW	MAR-JUL	33	40	=====================================	132	51	60	34
	MAR-SEP	36	43	49	132	55	64	37
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	102	115	123	138	131	144	89
	MAR-JUL	105	119	128	138	137	151	93
	MAR-SEP	112	126	135	138	144	158	98
BRUNEAU near Hot Spring	MAR-JUL	216	267	305	130	345	409	235
	MAR-SEP	232	286	325	130	367	433	250
DWYHEE near Gold Creek (2)	MAR-JUL	30	39	46	144	54	65	32
	MAR-SEP	29	38	46	148	52	63	31
WYHEE nr Owyhee (2)	APR-JUL	75	99	116	142	133	157	82
WYHEE near Rome	MAR-JUL	551	652	725	125	802	923	580
1	MAR-SEP	569	671	745	124	823	945	600
WYHEE RESV INFLOW (2)	MAR-JUL	557	657	730	119	807	927	615
	MAR-SEP	581	682	755	117	832	951	645
	APR-SEP	323	418	490	114	567	692	430
JUCCOR CK nr Jordan Valley	MAR-JUL	11.2	17.0	21	124	25	31	16.9
NAKE RIVER at King Hill (1,2)	APR-JUL	1470	2192	2520	86	2850	3570	2940
NAKE RIVER near Murphy (1,2)	APR-JUL	1585	2359	2710	88	3060	3830	3090
eynolds Creek nr Tollgate	MAR-JUL	8.4	10.8	12.5	129	14.4	17.4	9.7
NAKE RIVER at Weiser (1,2)	APR-JUL	3787	5439	6190	107	6940	8590	5770
NAKE RIVER at Hells Canyon Dam (1,	2 APR-JUL	4715	6396	7160	110	7925	9610	6490
NAKE blw Lower Granite Dam (1,2)	APR-JUL	16230	21229	23500	109	25770	30770	21600

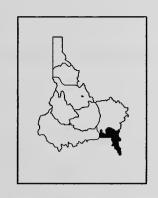
SOUTHSIDE S Reservoir Storage (1	SNAKE RIVER BA 1000 AF) - End		uary		SOUTHSIDE Watershed Snowpa	SNAKE RIVER B ck Analysis -		2006
Reservoir	Usable Capacity	*** Usa This Year	able Stora Last Year	age *** Av g	Watershed	Number of Data Sites		r as % of ====== Average
OAKLEY	75.6	34.3	14.6	31.4	Raft River	6	133	137
SALMON FALLS	182.6	46.6	20.7	59.8	Goose-Trapper Creeks	7	161	139
WILDHORSE RESERVOIR	71.5	42.4	14.4	40.1	Salmon Falls Creek	8	162	130
OWYHEE	715.0	549.8	203.3	489.1	Bruneau River	8	180	135
BROWNLEE	1420.0	877.4	1330.5	1090.5	Reynolds Creek	6	183	111
					Owyhee Basin Total	20	229	123

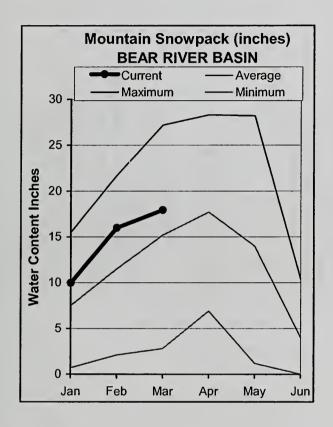
^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

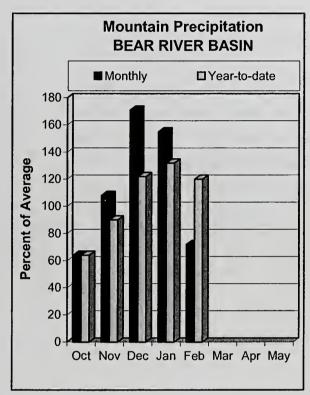
^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

BEAR RIVER BASIN MARCH 1, 2006







WATER SUPPLY OUTLOOK

The bad news is monthly precipitation was below average in February at 72% after three months with above average amounts. The good news is the above average precipitation in December and January continues to hold water year to date precipitation at 120% of average, even better than last year. Snowpacks dropped from a month ago and range from 105% of average for Dry Bread Pond SNOTEL site in Utah to 139% for Franklin Basin SNOTEL in Idaho. Overall, the Bear River snowpack is 118% of average, highest since 1997. The Bear River snowpacks is 96% of the normal seasonal peak. Storage in Bear Lake increased 14,000 acre-feet to 29% of capacity, this amount is more than three times the storage of a year ago, but still only 45% of average. Montpelier Reservoir is 70% full, 165% of average. Streamflow forecasts are looking encouraging at this time and are forecast at 105-120% of average for the April-September period. Although water year to date precipitation and current snowpacks already ensure adequate water supplies, lets hope that March brings more of both so that Bear Lake will continue to rise.

BEAR RIVER BASIN Streamflow Forecasts - March 1, 2006

<====== Drier ====== Future Conditions ====== Wetter ====>> Forecast Point Forecast ====== Chance Of Exceeding * ===== 90% 70% 50% Period 30% 10% 30-Yr Avg. (1000AF) (1000AF) (1000AF) (% AVG.) (1000AF) (1000AF) (1000AF) _____ ------_____ ====== ------Bear River nr UT-WY State Line APR-JUL 96 113 125 111 137 154 113 APR-SEP 104 123 137 110 151 170 125 Bear River ab Reservoir nr Woodruff APR-JUL 101 129 148 109 167 195 136 APR-SEP 106 134 154 109 174 202 142 5.8 118 Big Creek nr Randolph APR-JUL 4.0 5.1 6.5 7.6 4.9 103 Smiths Fork nr Border APR-JUL 117 126 122 135 149 103 135 APR~SEP 119 145 120 155 171 121 Bear River at Stewart Dam APR-JUL 170 216 250 107 287 345 234 APR-SEP 188 238 275 379 262 105 315 Little Bear River at Paradise APR-JUL 34 44 52 113 60 74 46 Logan R Abv State Dam Nr Logan APR-JUL 126 147 163 129 179 205 126 50 59 Blacksmith Fk Abv Up&L Dam Nr Hyrum APR-JUL 38 123 69 84 48 __________ _____________________________

Reservoir Stor	BEAR RIVER BASIN rage (1000 AF) - End	of Febru	ary		BEAR R Watershed Snowpack	IVER BASIN Analysis -	March 1,	2006
Reservoir	Usab1e Capacity	*** Usa This Year	able Stora Last Year	ge *** Avg	Watershed	Number of Data Sites		r as % of Average
BEAR LAKE	1421.0	408.7	136.0	910.7	Smiths & Thomas Forks	4	129	121
MONTPELIER CREEK	4.0	2.8	1.8	1.7	Bear River ab WY-ID line	e 14	113	117
					Montpelier Creek	2	132	118
					Mink Creek	4	135	126
					Cub River	3	131	135
					Bear River ab ID-UT line	e 25	122	121
					Malad River	3	128	114

^{* 90%, 70%, 50%, 30%,} and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

^{(1) -} The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

^{(2) -} The value is natural volume - actual volume may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoit volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural, unregulated or adjustments these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. (Revised Dec. 2005).

Kootenai R at Leonia, ID

Boundary Ck nr Porthill, ID - No Corrections Smith Creek nr Porthill, ID - No Corrections Moyie R at Eastport, ID - No Corrections + Lake Koocanusa (Storage Change) Clark Fork R at Whitehorse Rapids, ID

+ Hungry Horse (Storage Change)

+ Flathead Lake (Storage Change)

+ Noxon Rapids Resv (Storage Change)

+ Pend Oreille R at Newport, WA Pend Oreille Lake Inflow, ID

+ Hungry Horse (Storage Change) + Flathead Lake (Storage Change)

+ Noxon Rapids (Storage Change

+ Pend Oreille Lake (Storage Change) + Priest Lake (Storage Change)

Priest R nr Priest R, ID

NF Coeur d'Alene R at Enaville, ID - No Corrections St. Joe R at Calder, ID - No Corrections + Priest Lake (Storage Change)

+ Coeur d'Alene Lake (Storage Change) Spokane R at Long Lake, WA Spokane R nr Post Falls, ID

+ Coeur d'Alene Lake (Storage Change)

+ Long Lake, WA (Storage Change)

Clearwater River Basin

Lochsa R nr Lowell - No Corrections Selway R nr Lowell - No Corrections

+ Clearwater R nr Peck, ID Dworshak Resv Inflow, ID

- Clearwater R at Orofino, ID

Clearwater R at Orofino, ID - No Corrections + Dworshak Resv (Storage Change) Clearwater R at Spalding, ID

+ Dworshak Resv (Storage Change)

MF Salmon R at MF Lodge, ID - No Corrections Salmon R at White Bird, ID - No Corrections Salmon River Basin Salmon R at Salmon, ID - No Corrections Lemhi R nr Lemhi, ID - No Corrections

Weiser, Payette, Boise River Basins

SF Payette R at Lowman, ID - No Corrections Weiser R nr Weiser, ID - No Corrections Deadwood Resv Inflow, ID

+ Deadwood R blw Deadwood Resv nr Lowman

Lake Fork Payette R nr Mccall, ID - No Corrections + Deadwood Resv (Storage Change) NF Payette R at Cascade, ID

+ Cascade Resv (Storage Change)

+ Payette Lake (Storage Change)

NF Payette R nr Banks, ID

+ Cascade Resv (Storage Change)

+ Payette Lake (Storage Change) Payette R nr Horseshoe Bend, ID + Cascade Resv (Storage Change)

+ Deadwood Resv (Storage Change) + Payette Lake (Storage Change)

Boise R nr Twin Springs, ID - No Corrections SF Boise R at Anderson Ranch Dam, ID

+ Anderson Ranch Resv (Storage Change)

Boise R nr Boise, ID

+ Anderson Ranch Resv (Storage Change) + Arrowrock Resv (Storage Change)

+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins Big Wood R at Hailey, ID - No Corrections Big Wood R abv Magic Resv, ID

+ Big Wood R nr Bellevue, ID

+ Willow Ck

Camas Ck nr Blaine - No Corrections

Big Wood R blw Magic Dam nr Richfield, ID + Magic Resv (Storage Change)

Little Wood R aby High Five Ck, ID - No Corrections

+ Little Wood Resv (Storage Change) Little Wood R nr Carey, ID

Big Lost R at Howell Ranch, ID - No Corrections Big Lost R blw Mackay Resv nr Mackay, ID

+ Mackay Resv (Storage Change)

Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin Henrys Fork nr Ashton, ID

+ Henrys Lake (Storage Change)

+ Island Park Resv (Storage Change)

Henrys Fork nr Rexburg, ID

+ Henrys Lake (Storage Change)

+ Island Park Resv (Storage Change)

+ Grassy Lake (Storage Change)

+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID + Diversions from Henrys Fk btw Ashton to St. Anthony, ID

+ Diversions from Falls R abv nr Ashton, ID

+ Diversions from Falls R nr Ashton to Chester, ID

Falls R nr Ashton, ID

+ Grassy Lake (Storage Change)

+ Diversions from Falls R abv nr Ashton, ID

Teton R nr Driggs, ID - No Corrections

Teton R nr St. Anthony, ID

- Cross Cut Canal into Teton R

+ Sum of Diversions for Teton R abv St. Anthony, ID

Snake R nr Moran, WY

Pacific Ck at Moran, WY - No Corrections + Jackson Lake (Storage Change) Snake R abv Palisades, WY

+ Jackson Lake (Storage Change)

Greys R abv Palisades, WY - No Corrections Salt R abv Palisades, WY - No Corrections Snake R nr Irwin, ID

+ Jackson Lake (Storage Change)

+ Palisades Resv (Storage Change)

Snake R nr Heise, ID

+ Jackson Lake (Storage Change)

+ Palisades Resv (Storage Change)

Willow Ck nr Ririe, ID

+ Ririe Resv (Storage Change)

Blackfoot Resvervoir Inflow, ID

+ Blackfoot Resv (Storage Change + Blackfoot Reservoir releases

Snake R nr Blackfoot, ID

+ Palisades Resv (Storage Change)

+ Jackson Lake (Storage Change)

+ Diversions from Snake R btw Shelly and Blackfoot + Diversions from Snake R btw Heise and Shelly

Portneuf R at Topaz, ID - No Corrections

American Falls Resv Inflow, ID

+ All Corrections made for Henrys Fk nr Rexburg, ID + Snake River at Neeley

+ Jackson Lake (Storage Change)

+ Palisades Resv (Storage Change)

+ Diversions from Snake R btw Heise and Shelly

+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins

Oakley Resv Inflow, ID

+ Goose Ck aby Trapper Ck

+ Trapper Ck nr Oakley

Salmon Falls Ck nr San Jacinto, NV - No Corrections Bruneau R nr Hot Springs, ID - No Corrections

Owyhee R nr Gold Ck, NV

+ Wildhorse Resv (Storage Change)

Owyhee R nr Owyhee, NV

Owyhee R nr Rome, OR - No Corrections + Wildhorse Resv (Storage Change)

Owyhee Resv Inflow, OR

+ Owyhee R blw Owyhee Dam, OR

+ Owyhee Resv (Storage Change)

Succor Ck nr Jordan Valley, OR - No Corrections + Diversions to North and South Canals Snake R at King Hill, ID - No Corrections

Snake R nr Murphy, ID - No Corrections Snake R at Weiser, ID - No Corrections

+ Brownlee Resv (Storage Change) Snake R at Hells Canyon Dam, ID

Bear River Basin

Bear R abv Resv nr Woodruff, UT - No Corrections Bear R nr UT-WY Stateline, UT - No Corrections Smiths Fork nr Border, WY - No Corrections Bear R blw Stewart Dam nr Montpelier, ID

+ Bear R blw Stewart Dam

+ Rainbow Inlet Canal

Reservoir Capacity Definitions (Units in 1,000 Acre-Feet, KAF)

Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current storage. (Revised Dec. 2005)

NRCS Capacity Includes	Active Active Active Dead+Inactive+Active Inactive+Active Dead+Inactive+Active	hactive+Active Active hactive+Active hactive+Active hactive+Active hactive+Active hactive+Active	Active	Active Active+Inactive Active Active Inactive+Active Active+Inactive:
NRCS NE	3451.0 Ac 1791.0 Ac 335.0 Ac 1561.3 De 238.5 Ina 119.3 De	3468.0 ha 11.1 Ac 693.2 ha 161.9 Ac 450.1 ha 272.2 Ac 293.2 ha	191.5 Ac 30.0 Ac 44.4 Ac 90.4 Ac 135.2 Ac 15.2 Ac 847.0 Ac 1400.0 De 80.5 Ac 348.7 Ac	75.6 Ac 182.6 Ac 71.5 Ac 715.0 Ac 1420.0 Ina
9	346	m		118
e Surcharge ge Storage	3451.00 1791.00 335.00 1042.70 225.00	11.10 646.50 161.90 272.20 264.40 13.80	7.9	
e Active e Storage	£,		11. 8 11. 8	1 7 9 9 13 13 13
Inactive Storage	3	lsins 0.24 1 0.24 46.70 0 37.00 0 5.80	own 0.13 0.40 10.40 10.40 6.00 4.00 6.00	ins 0 48.00 5.00 06.83 0.45 444.70 5.0 MAF 119.0
Dead Storage	39.73 Unknown Unknown 406.20	asin Payette Bas 1.61	Ž \$ 4	4
Basin/ Reservoir	Panhandle Region Hungry Horse Flathead Lake Noxon Rapids Pend Oreille Coeur d'Alene	Clearwater Basin Dworshak 1 Weiser/Boise/Payette Basins 1.61 Mann Creek 1 Cascade Deadwood Anderson Ranch 24.90 Arrowrock Lucky Peak Lake Lowell 7.90	Wood/Lost Basins Magic Un Little Wood Mackay Upper Snake Basin Henrys Lake Island Park Grassy Lake Jackson Lake Jackson Lake Balsekson Lake American Falls	Southside Snake Basins Oakley Salmon Falls Wildhorse Owyhee Brownlee 0.406.8 Brownlee 0.406.8

Interpreting Water Supply Forecasts

Introductic

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of hav more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for

A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for

A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce th risk of having more water than planned for, users can base their operational decisions on one of the forecast with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example

Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% char that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between Apr and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause proble (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceeda forecast). There is a 30% chance of receiving less than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the 90 percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving more than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

		2	Weiser, Payette, E Streamflow Foreca	Veiser, Payette, Boise River Basins reamflow Forecasts - January 200	06 Miles	- t		
Forecast Point	Forecast Period	90% (1000AF)	70% (1000AF)	= Chance of Exceeding * 50% (1000 AF) (% AVG	== Chance of Exceeding * ==== 50% (1000 AF) (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL APR-SEP	329 369	414 459	471 521	109	528 583	613 673	432 488
BOISE RIVER near Twin Springs (1)	APR-JUL APR-SEP	443 495	610 670	685 750	109	760	927 1005	631 690

^{*90%, 70%, 30%,} and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table

OFFICIAL BUSINESS



Issued by
Bruce I. Knight, Chief
Natural Resources Conservation Service
Washington, DC

Released by Richard Sims, State Conservationist Natural Resources Conservation Service Boise, Idaho

Prepared by
Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morrisey, Data Collection Officer
Jeff Anderson, Hydrologist
John Wirt, Hydrologic Technician
Jeff Graham, Electronics Technician
Chad Gibson, Electronics Technician

Assistance provided by Tom Perkins, Senior Forecast Hydrologist, NRCS, National Water and Climate Center, Portland, Oregon

Cooperative funding for printing provided by Idaho Department of Water Resources

Numerous other agencies provide funding and/or cooperative support for the collection, operation and maintenance of the Snow Survey Program. Their cooperation is greatly appreciated.



G12345678

NATIONAL AGRICULTURAL LIBRARY CURRENT SERIAL RECORDS / ROOM 002 10301 BALTIMORE AVENUE BELTSVILLE MD 20705-2351

